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Vol. XXIX May 1963 No. 11

OBSERVATIONS ON A UROLOGY CLINIC IN MOSCOW

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Much more is known to the outside world about the advances and achievements of the Soviet Union in the field of technology than in the field of medical science. Much of the literature on Soviet medicine is not translated in English and is, therefore, not open to us. Not only this– very few medical men visit the Soviet Union to undergo professional training. I, therefore, feel it worthwhile providing you with some information about our brethren in the Soviet Union. During my stay of 16 months in Moscow, I tried to collect as much information as was possible about the many aspects of medical service and also of medical education. I must specially point out that the lack of proficiency in the Russian language was a serious disability in obtaining this information.

I was sent by the Government of India to Moscow to undergo training in cystoscopic procedures. The first 4 months were spent in learning the Russian language. Having known very little about the urologists in Moscow, it was difficult to choose the surgeon under whom I should work. I was admitted into the Central Institute of Post-graduate Medical Studies in Moscow and was posted to work under one Professor Anatoli Pavlovich Frumkin — a urologist of over 35 years standing. He was the chief of the urology clinic in Botkin's Hospital which is the biggest hospital in Moscow. The total bed strength of this hospital is 4000. This is a big general hospital with several clinics and departments.

The urology clinic has 110 beds out of which 60 are for men and 50 for women. There is also a urology outpatient clinic. There are no beds for children in this clinic. There is a separate urology clinic in the hospital for children. In the Soviet Union, as different from the U. K., urology is a distinct speciality in surgery for quite some years now. The general surgeon does not tackle urological cases if a urologist is available.

I should like to tell you now something about this clinic and also about its working. These, I hope, may interest some colleagues who may have to run urology clinics in our part of the country also.

The department consists of men wards, women wards, two operation theatres, an artificial kidney section, cystoscopy rooms, three x-ray rooms, two dressing rooms, an auditorium, a clinical photography room, doctors' rooms and also a consultation room for patients referred from other departments of the hospital. Each floor has a cystoscopy room, x-ray room and a dressing room beside the wards.

The following are the medical personnel: One professor, a reader, 4 assistants, 16 ardinators (equivalent to senior house surgeons), 4 post-graduate students (aspirants), a radiologist and an anaesthetist. The professor and the reader are consultants and do not see patients daily. Each doctor has about 6 patients to look after and all examinations and investigations are carried out by him before the consultant sees the patient. The assistant sees the patient. The assistant is always available for consultation and he makes daily rounds. The professor makes ward rounds once a week.

Operations are done on 5 days in a week and the attending doctor always takes part in the operation. All the patients to be operated on are seen by the anaesthetist in the wards before operation and all the patients posted for major surgery are seen by the physician also. The consulting physician visits the clinic daily.

The work in the clinic starts daily at 8-45 A. M. and ends at 3 P. M. There is, to begin with, a meeting of the doctors with the nurses. The night duty nurses read out their reports and the attending doctors have an idea about their patients even before they see them. At 9 A. M. there is a conference of doctors and the duty doctors in the clinic and in the admission departments make their reports. This conference is very interesting and at the same time very useful, since there is a free and thorough discussion of all the difficult cases in the clinic. In this conference case reports on the patients who are posted for operation on that day are presented and again there is a free discussion on all aspects of the cases especially on investigations and the operative procedures. These daily conferences are usually presided over by the reader of the clinic. The junior doctors are invited to take part in the discussion and they do so quite freely.

Once in every month on a saturday afternoon, all the medical officers of the clinic assemble in the professor's room for an academic report by one of the post-graduates. The report is about the work done by him on the topic of his study and he is also expected to summarise the current world literature on the topic. The professor presides over these meetings, but all the senior medical officers take part in the discussion. Plenty of suggestions are given by the senior colleagues to the post-graduates in these meetings and they are greatly benefited by these frequent meetings. There is a clinico-pathological conference in the clinic once in 3 months.

This clinic, being attached to the post-graduate institute, not only trains post-graduates, but also affords refresher courses for surgeons and urologists. Depending on their previous experience, they attend courses on urology ranging from 2 to 6 months. These doctors attend lectures daily, delivered by the professor, reader and the assistants apart from attending to the clinical work.

I feel it won't be out of place if I mention about some of the urological investigations with some of which we are not very familiar and also some of the common problems met with in this clinic and also some of the uncommon surgical procedures.

The simple test for renal function, namely the range of specific gravity test, called Zemnitsky's test is done for every case and also relied upon. This test gives a fair idea of the functional integrity of the kidneys. Fluid is withheld for 12 hours overnight. The specific gravity of the 1st morning specimen should be 1020 or above. Then about a pint of tea is taken. Urine is collected after 3 and 6 hours. The specific gravity must reach as low as 1005.

Cystoscopic examinations are done under local analgesia on men and without anaesthesia on women, with the patient in the extended lithotomy position. A lot of cooperation is required from the patient for this procedure and surprisingly enough this cooperation is available and only very rarely general anaesthesia is used for cystoscopies. In the U. K., cystoscopies are done under short general anaesthesia on men and under local analgesia on women. The Britisher is probably fussier than the Russian. In the U. S. A., I am told, cystoscopies are done under local analgesia after heavy sedation. In our country, our patients do not cooperate as well as the Russian and probably our pain threshold is low. My personal view is, it is extremely difficult to place a conscious Indian woman in the lithotomy position for an examination. Even lithotripsies and electro-coagulation of bladder papillomata are done under local analgesia. No less than 15 cystoscopies are done in the O. P. clinic daily and occasionally repeat cystoscopies even on men are done without anaesthesia. This probably is not correct and a little unfair. The local anaesthetic agent used is 3 in 1000 Dicoine. Retrograde pyelograms are also done under local analgesia, but only on in-patients. It must be mentioned that the external genitalia are not prepared and it is felt that such preparations are unnecessary.

The most common problems met with are urinary lithiasis, prostatic enlargement, traumatic urethral strictures and neoplasms of the kidney and bladder. Gonorrhoeal strictures are not met with. In all cases of urethral strictures, a urethrogram is done to visualise and assess the site, extent and severity of the stricture.

In cases of enlargement of the prostate where the intravesical enlargement is to be visualised, a simple cystogram does not always help unless the enlargement is gross. A lacunar cystogram is done in which 20 cc of the dye and about 150 cc of 0_2 are introduced into the bladder and pictures taken. This brings out the intravesical projection very clearly.

In cases of hydronephrosis when the calyceal pattern is not seen in I.V.U., tomogram is done and the calyces are very often brought out more distinctly.

Non-radio-opaque urinary calculi are fairly commonly met with. To visualise a non-radio-opaque calculus in the pelvis as a filling defect, the dye used must be of low concentration. 5% and 10% iodine compounds are used for the retrograde pyelogram. In some clinics, to visualise pelvic lesions, pneumo-pyelogram is done by introducing 0_2 into the pelvis through the ureteric catheters.

A barium cystogram and a pericystogram are commonly done for cases of malignant neoplasms of the bladder. 30 grams of barium in 100 c c of distilled water is introduced into the bladder. The patient is instructed to walk about for ½ an hour or, depending on the suspected site of lesion, sits in different postures. Then the patient urinates. 100 - 150 c c of 0_2 is then introduced. The barium sticks to the lesion and a pattern is obtained. In a good number of cases of non-infiltrating tumours, the lesion if visualised very well by this cystogram. To visualise infiltration, about 500 c c of 0_2 is introduced in the perivesical space, 250 c c on each side. By this procedure the bladder wall is brought out very clearly and infiltration can be made out by the thickness of the bladder wall and also sometimes by the fact that 0_2 does not easily get into the perivesical space on the side of the lesion. Tomography combined with this procedure brings out the details of the lesion very satisfactorily. Bimanual examination with the patient under good general anaesthesia — the essential examination in Britain of bladder tumours — is not done in Prof. Frumkin's clinic. Perhaps they depend more on shadows than their tactile sensations.

Prof. Frumkin's clinic, being one of the leading urological clinics in the Soviet Union, receives a variety of complicated urological problems being referred from other hospitals in the country. Lithiasis of a single kidney, hydronephrosis of a single kidney, ureteric stricture with a solitary kidney, etc. are not uncommon problems. In the operation of pyelolithotomy, great emphasis is attached to the incision on the pelvis. The incision is made on the inferior aspect of the pelvis and it is believed that this incision closes rapidly without trouble and in a case where extension of the incision is necessary, it is carried on to the medial border of the kidney which is a much safer procedure than having to extend a posterior incision on the pelvis. Usually for a lower pyelo-lithotomy, the whole kidney is not mobilised.

The commonest plastic procedure done for hydronephrosis is Foley's operation. Operations which involve excisions of portions of pelvis are looked upon with disfavour. This procedure by severing the nerve fibres on the pelvic wall is believed to seriously interfere with the transmission mechanism of the pelviureter.

Benign prostatic hyperplasia is treated by suprapubic transvesical enucleation just as we do here. The essential difference is that the bleeding, which we consider needs plugging of the cavity, is left alone there. After warm irrigation, if it is necessary, plugging is done on the operating table for 5 minutes, but is not left in position. Bladder is closed with a large sized tube. Nothing untoward happened in a large number of operations, except in one case where plugging had to be done about 12 hours after operation for the haemorrhage. Incidentally this patient was the professor's boyhood classmate and, therefore, was operated on by the professor, but died on the 3rd p. o. day. No urethral catheter is left and if the patient passes urine even though with a subnormal stream, dilatation is not done.

Retro-pubic or perineal prostatectomies are not done in this clinic, but are being done in other clinics in the country.

It is surprising that trans-urethral resections are not done anywhere in the Soviet Union. Until a few years ago, Soviet doctors did not have an opportunity to see surgeons at work in other parts of the world. The urologists are quite aware of the fact that this procedure is extensively practised all over the world. I think they were unable to do this procedure not only because there were no trained personnel, but they did not have a resectoscope of their own. As is well known, there was no import of surgical goods into the Soviet Union for quite a long time during Stalin's days. Only recently, i. e., less than a year ago, 20 resectoscopes have been manufactured in Moscow and they were not yet distributed to the clinics till I left in September. Professor Frumkin was keen to start doing this transurethral resections. For this same reason, endoscopic resections of bladder tumours also are not done.

Prof. Frumkin, with his wide experience in bladder surgery, believes more in the surgical treatment of malignant bladder lesions than in irradiation therapy. According to him, total cystectomy for bladder cancers has not given better results than partial cystectomy. Therefore, not only the fundus and lateral wall lesions are treated by partial cystectomy, but also the bladder neck lesions. He avoids uretero-colic anastomosis probably because of the well known complications like ascending infection and hyperchloraemic acidosis. Partial cystectomies are often combined with implantation of one ureter into the bladder pouch.

For bladder neck lesions, Prof. Frumkin has devised a novel and ingenious type of partial cystectomy. The lower half of the bladder is resected, ureters implanted in the cup of the bladder left behind, stitches are inserted on the cut edge of the bladder and pulled out through the urethra so that this edge converges to the internal meatus region. Fixation stitches are put in on the external aspect and the strands coming out of the urethra are fixed to the thigh. The bladder is drained supra-pubically also. In all these cases of resection of the bladder, the perivesical space is drained by 2 tubes brought out through the obturator foramena. These drains function very well and prevent to a great extent perivesical infection due to leak.

Good results are claimed for this operation and in 3 cases I have seen the short term results were good in the sense that the patients were able to pass urine comfortably once in about 3 hours. The bladder capacity gradually increases. One instance was cited in which an enucleation of the prostate was done some years after this operation. 27 such operations have been done in this clinic and one patient lived 22 years after lower hemicystectomy. This operation is also referred to as the parachute operation.

Total cystectomy with sigmoid bladder have been done only twice in this clinic and both the patients died—one of pneumonia and the other of nécrosis of the sigmoid segment.

For microcystitis due to tuberculosis, instead of an ileal plasty, a sigmoidoplasty is done. Perhaps, one is as good as the other.

The operative treatment for strictures of the ureter is always a difficult proposition. In suitable cases an ileal plasty, i. e., the replacement of the whole ureter by an ileal segment is done. This is a major surgical procedure and is often done in 2 stages. This is really a formidable procedure when this has to be done on a single kidney or a single functioning kidney. This is more so, if the pelvis happens to be intrarenal.

Stricture of the lower 1/3 of the ureter is very satisfactorily treated with Buari's operation where the normal ureter above the stricture is anastomosed with a tube made out of the bladder wall.

In all cases requiring drainage of the kidney for a considerable period of time, instead of a simple nephrostomy, what is known as a circular drainage is instituted. This is supposed to drain better than a nephrostomy and there is no trouble of the tube slipping out; also change of the tube is easier. In this, the drain passes through the kidney and the pelvis and comes out. 2 identical tubes are kept ready and one is introduced and the other kept for the change. At the time of changing of tubes, the new tube is fixed to the old and is pulled in when the old tube is pulled out. Perforations are made at identical spots on both the tubes so that they occupy the correct position inside.

I have now told you about some of the procedures in urology which are commonly met with in Prof. Frumkin's clinic.

Unlike in Britain, the urology outpatient department to which all the patients are referred from outside, is manned by a junior medical officer and not a consultant. But every afternoon a consultant is available to assist the out-patient medical officer. It may be of interest to note that admissions are not easy even in Moscow and there is always a waiting list of 80 patients on an average. Favouritism, political influence and the like do play a part in the matter of admission even in Moscow, though to a very much less degree than in our country. As far as I could see, there is no blatant corruption.

I should like to give some details about the artificial kidney section. This section. is manned by a urologist, a nephrologist and a clinical assistant and a technician apart from the laboratory assistants.

I am not familiar with the intricacies of dialysis. There are only 5 artificial kidneys in the whle Soviet Union, but all of them are made there. During one year in 1961 the artificial kidney was used on 29 patients. The commonest cause of anuria for which the artificial kidney is used is septic criminal abortion. I don't know why the epithet 'criminal' is used since abortion in the Soviet Union is legalised. Formerly induction of abortion costed 5 roubles, viz., 25 rupees, but for the past 2 years it is free. Even so, surprisingly enough septic abortions induced outside the hospitals are not uncommon.

Accidents happen everywhere. On one occasion, the artificial kidney was used on a patient from whom a solitary kidney was removed for trauma.

This is why, on every patient with a suspected trauma to the kidney, an I. V. Urography should be done as early as possible. This is not so much for diagnostic purposes, but to ascertain whether both the kidneys are present. In the event of an exploration of the kidney, this information obviously is absolutely essential. In Prof. Frumkin's clinic, this is done with a religious discipline.

Similarly, the teaching in the clinic is that a cystoscopic examination must be done for every case of haematuria during bleeding. This is imperative and it must be noted from which kidney the bleeding occurs. When a patient who harbours a calculus in one kidney and a malignant tumour in the other has haematuria, our attention is likely to be diverted to the calculus, if a cystoscopy is not done at the time of bleeding. A patient sought admission for haematuria and on cystoscopy bleeding was observed from the left uretric orifice. Retrograde pyelogram suggested the presence of a large cyst in the right kidney and irregularity of the left upper calyces — only vaguely suggestive of a polycystic kidney. Since the diagnosis was doubtful, the left kidney was explored and it was found to contain not only multiple eysts, but also a malignant tumour for which a nephrectomy was done. If in this case a cystoscopy had not been done, the cyst in the right kidney would have been thought to be the cause of haematuria.

In the casualty department there is always a duty urologist available and on all patients suspected to be suffering from ureteric colic, a chromocystoscopic examination is done to confirm or eliminate the diagnosis.

I have narrated to you some of my observations on the urology clinic in which I had the opportunity to work for a year which, I hope, would be of interest atleast to many of you.

I shall now make a passing reference in a general way about some other aspects of medical profession in Moscow. As is well known, there is no scope for private medical practice in the Soviet Union, since medical service is free of cost. As far as I could gather, it is not as though private medical practice is illegal, but no body ever thinks of it under the existing circumstances. A small health tax is collected from all earning members of the population. Not all drugs are supplied free for out-patients as in Britain. I must specially mention that the availability of many drugs is poor even in Moscow and probably worse in other places in the Soviet Union. A good number of drugs are imported from the other communist countries of Europe especially from Hungary and Czhekoslovakia. Artificial limbs, spectacles and other orthopaedic appliances have to be paid for.

The post-graduate course in any branch of medicine is for 3 years, when the candidate is expected to work on a theme and submit a thesis at the end of it. The candidate must also pass an examination in the history of the communist party of the Soviet Union and also in a foreign language — German, English or French. There is a preliminary defence of the thesis by the candidate in the department and then a final defence before an academic council constituted by the post-graduate institute. The candidate should secure 2/3 of the votes to get the post-graduate qualification. This is known as the "candidate". There is also a doctorate which is awarded only to those who have done original work. For this also, the thesis is defended. Almost all the professors hold this qualification.

In the matter of salary, we and the Soviet doctors are on a level. The Soviet doctors also are poorly paid. They are started on 80 roubles a month and end up with 130 roubles. A health tax of 6 roubles and a bachelor tax of 6 roubles are deducted from this salary, if the medical man is a bachelor. Bachelorhood is discouraged, but at the same time abortions are legal. This position is rather difficult to understand. The teaching staff is paid more and a professor gets 500 roubles. It must be noted that a professor of a medical institute is paid less than the professors of other sciences like engineering, dramatic art, dancing, etc. The medical men are very sore about this, and it is expected that in the near future their lot will be bettered.

Before I conclude, I should like to mention that generally speaking the Soviet doctor is a hardworking conscientious person. The Soviet citizen is simple and friendly in general and embarrassingly friendly towards Indians in particular. I have refrained from commenting on many aspects of life in a socialist country since they are outside the scope of my theme. But I shall say this, and that is, but for the language problem, Moscow and, in fact, many other cities in the Soviet Union are really worthwhile places to visit, not only for curiosity, but also to undergo training in several medical and surgical specialities. I am positive that atleast for some more years to come, Indians will be treated with the same courtesy as they are today. I have a feeling that Indians will feel more at home in the Soviet Union than in many other countries to which they go to day in large numbers for higher training.

CHANGE IN BRITISH WAY OF LIFE

Because of the constant growth of knowledge, it is truer now than ever before that education is a lifelong process. This may have practical consequences: to take one example, to-day a doctor must pass strict examinations in order to be allowed to practise; but his knowledge will be out of date within 10 years. Already many doctors are taking advantage of regular refresher courses in order to keep in touch with new developments. So far, these courses are optional, and as a result those who must need them are least likely to attend; perhaps, before long every doctor should be required to study again, and to pass exams again at intervals of five or ten years.

G. M. CARSTAIRS,
British Medical Journal: Jan. 19, 1063, page 145.

CONTROL OF TUBERCULOSIS*

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When Robert Koch in 1882 discovered the tubercle bacillus and proved that it was the cause of the disease known as tuberculosis, many physicians thought then that the way lay open to its cure and control. Over eighty years have passed during which time more has been written about the tubercle bacillus than any other living organism except man himself. Many societies and associations have been formed. Special legislation has been passed in some countries. Vast sums of money have been spent on this disease and thousands have spent their whole lives for the study and research on this subject. New anti-tuberculous drugs such as streptomycin, isonex, P. A. S., cyclocerine, viomycin, pyrazinamide, etc. have radically changed the field of treatment. Surgical treatment of tuberculosis which was a major problem some years back is no more a problem to-day. Thoracoplasty, lobectomy, pneumonectomy, decortication of the lung, segmental resections, surgical drainage of the tuberculous empyema are some of the major surgical procedures in the field of treatment which are made easier by the improved surgical technique, improvement in the technique of anaesthesia and the latest anti-tuberculous drugs. To-day we find that there is a vast improvement in the field of treatment. Minimal tuberculous are completely cured, thin-walled cavities are closed by the anti-tuberculous drugs alone without surgical intervention, tuberculous pleural effusions are successfully treated with the latest drugs without aspirations, empyema which was a more dreaded complication some years back is treated successfully to-day. We can proudly say that we have improved in tackling the tuberculosis bacillus.

In spite of all these improvements in the field of treatment, we have not successfully eradicated tuberculosis in India. The mortality rate has come down and the morbidity rate is still the same. Forty two percent of the total population are tuberculin positive in India. The number of beds available in the whole of India for tuberculosis patients are about 30,000. The prevalance of tuberculosis as defined by the proportion of radiologically active cases on the one hand and of bacteriologically positive case on the other hand, average 1·8% and 0·42% respectively. As the age advances, the incidence of the disease also increases. The disease is prevalent more in males than in females. The disease is equally distributed in urban and rural areas. It is seen from the records that the mortality rate is half a million in India. Tuberculous bacillus in India is different from T. B. in England. In England the virulance index is above 50, where as in India it is below 50, some are 30, some are below 10 and some are the same as B. C. G. These are the basic facts on which the control programme is based.

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* This article forms part of the lecture delivered on 12—1—1963 to the members of the Nilgiris Medical Association and is based mainly on the knowledge gained from the National Tuberculosis Institute, Bangalore during my training there.

Control of tuberculosis in the community is different from the mere care of the individual patient as has been the usual practice till recently. The emphasis is more on a public health approach as against a clinical approach. It is already pointed out that inspite of many improvements in the field of treatment the morbidity is the same as before because we were treating the patient as an individual. Now the time has come to treat tuberculosis in the community as a whole. The National Tuberculosis Institute of Bangalore have evolved a different technique of approach to this problem based mainly on the results and experience gained. This is nothing but a district tuberculosis programme. In formulating this programme, they have taken into consideration the limited resources available in finance and personnel and have tried to work out a scheme restricting the employment of specialised staff to the minimum by making use of public health personnel and other organisations available in a district. If this programme is implemented, appreciable reduction in the tuberculosis problem in a district is anticipated. Minor changes may be necessary in course of time as the result of further experiments.

Let us take an average district with a population of above 12 lakhs, of whom at least 10 lakhs live in some 2,000 villages. There will be about 20,000 radiologically active cases of whom 5,000 are likely to be confirmed bacteriologically. Of these 80% are to be found in the villages, 5 to 10% in the district head-quarters town and the rest in the taluk head-quarters towns. The yearly incidence of new cases will be in the order of 1/5th of the total existing at any point of time. This will be about 4,000 new cases every year of whom 1,000 would be confirmed bacteriologically.

Most of the districts in India are in a fairly advanced stage from the point of view of National Extension Schemes. There are about 8 to 10 blocks in each district. This number will be doubled at the end of the 3rd five year plan. Each block has a primary health centre. Each primary health centre has many sub centres. The existing facilities in each primary health centre is definitely better than any other hospital. The National Tuberculosis Institute is developing methods and techniques of tuberculosis control through their general health facilities, the aim being to bring tuberculosis services within the reach of the entire community. The most important aim is to reduce the number of infectious cases and prevent the non-infectious. The sociological section of the National Tuberculosis Institute, Bangalore after studies conducted, indicated that at present 1/3rd of the radiologically active cases including one half of those confirmed bacteriologically positive on smear examination seek remedy under the pressure of their symptoms, another 1/3rd of the radiologically active including an additional quarter of bacteriologically confirmed are likely to be sufficiently motivated by their symptoms if the facilities are brought within their reasonable reach.

AWARENESS STUDY :

93% are aware of the disease.
72% are worried.
52% take action.

The two important implications of treatment in tuberculosis are :

(1) Constant supply of the drug.

(2) Regular intake of the drug by the patients for a period of one year.

1. The supply of the drug is the responsibility of the Government.

2. Drug collection and drug consumption for one full year is the important aspect of the whole programme which can be achieved if the general health medical staff guided by the district centre supervise the drug distribution and consumption and enlist the help of block development personnel, gram panchayat, VLDS and school teachers in retrieving the defaulters. The whole programme consists of the diagnosis of pulmoary tuberculosis, either by x-ray or by sputum examination alone and then treating them for a minimum period of one year. In all those who have demonstrable bacilli, a combined therapy is more efficient in converting the sputum and in reducing the risk of developing resistant strains. In the absence of the drugs due to limited finance, a single drug isoniazid alone may be given to patients who are sputum negative. In a moderably efficient district tuberculosis programme, 1,500 sputum positive cases and 2,500 x-ray cases would have to be treated every year. This implies a financial commitment of a minimum Rs. 40,000 for one drug alone for sputum negative cases and Rs. 1,75,000 for two drugs (PAS & INH) for sputum positive cases.

Let us all join together and eliminate tuberculosis in India. I know the problem is fairly big, but not impossible. Man is born for only one purpose—to be happy. But what is happiness ? It is that pleasant state of mind which is brought about by the habitual doing of good deeds.

REMOVAL OF CIGARETTE VENDING MACHINES

Roswell Park Memorial Institute, Buffalo, N. Y., removed all cigarette vending machines from its premises in December 1962. At each machine location, these signs were posted: "Roswell Park Memorial Institute is dedicated to the detection, treatment and prevention of cancer. To help protect and remind you of the hazards of cigarette smoking, all cigarette vending machines have been removed from the premises. Research at Roswell Park Memorial Institute has proved conclusively that cigarette smoking is a major cause of lung cancer. It also increases diseases of the heart and blood vessels, chronic bronchitis and gastrointestinal disorders".

The Institute has also undertaken a program to discourage the general public from smoking. In addition to a pilot project in Buffalo area schools, the organization has distributed cartoons and match book covers warning the smoker of the increased tendencies to develop cancer due to cigarette smoking.

SCINCE 11 January 1963.

CHRONIC DIARRHOEAS

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Chronic diarrhoeas are quite common in general practice and the proper management of these conditions is dependant on the correct diagnosis of the underlying cause. Quite often they are the cause of much sickness in the community and the make-shift arrangements made to treat the symptom without investigating the cause has been the main reason of their chronicity. A person with chronic diarrhoea is a liability on society as by his periodic absence from work due to repeated exacerbation of his complaint, he is responsible for the loss of many man-hours of work and by the debilitated nature of his health, he is not able to contribute his full quota of effort even when he works. Also by the very chronic nature of the disease, he becomes neurotic - introspective, gloomy and always bowel-conscious. So the proper management of such cases by thorough investigation and correct treatment will not only contribute to the personal health and happiness of these patients but will also increase the nation's prosperity.

Diarrhoea is a condition in which unformed stools are passed. Defaecation generally occurs several times in the day, but mere frequency of of defaecation is not diarrhoea, for this may even be associated with constipation. The bulk of faeces excreted in 24 hours is generally excessive, but this again may occur without diarrhoea, as excessive faeces are occasionally formed when the passage through the alimentary canal is not abnormally rapid. The one essential factor in diarrhoea is the abnormally rapid passage of the food-residue through the alimentary canal.

Chronic diarrhoeas can be classified physiologically as: (1) Due to excessive stimulation of motor activity. The presence in the food of excess of the mechanical and chemical stimulants of intestinal activity causes diarrhoea as in the over-indulgence in green vegetables, salads and unripe fruit. In uraemia, hyperthyroidism and septicaemia, persistant diarrhoea is quite common. (2) Over-excitability of the neuro-muscular mechanism which controls the intestinal movements. The post-prandial diarrhoea in which the gastro-colic reflex persists in an abnormally active form even after childhood and the nervous diarrhoea are examples. (3) Organic intestinal disease due to enteritis or colitis.

Another classification which is partly anatomical and partly functional is as follows :—

1. *Gastrogenous :*

(i) Associated with achlorhydria, eg. atrophic gastritis, carcinoma of the stomach.

(ii) Following operations on the stomach associated with rapid emptying of the stomach, eg. sub-total gastrectomy.

2. *Intestinal :*

(i) Infections: Chronic dysentery (bacillary and amoebic).

(ii) Infestations: Giardiasis, etc.

(iii) Ulcerative diseases :
Tuberculous entero-colitis
Ulcerative colitis
Crohn's disease

(iv) Diverticulitis

(v) Neoplasms of the colon

(vi) Following vagotomy

3. Functional disease of the intestine, eg. nervous diarrhoea

4. Malabsorption syndrome (steatorrhoeas)

5. Hyperthyroidism

In a country like ours, the most common causes of chronic diarrhoea are the intestinal infections and infestations and tuberculous enterocolitis. The other conditions are not at all common in general practice and a consideration of the intestinal infections and infestations and tuberculous entero-colitis is enough for discussing chronic diarrhoeas in our country. Even chronic bacillary dysentery is not quite common being an acute self-limiting disease which gets cured either spontaneously or with treatment. The intestinal infestations like ankylostomiasis, ascariasis, giardiasis or trichomoniasis intestinalis may all present themselves as chronic diarrhoea. Of late, even whipworms, which were considered as quite harmless, have been incriminated as the cause of chronic diarrhoea. Thread worms by reflex irritation may also cause chronic diarrhoea. The diagnosis of these cases depends on repeated examination of the stool for the adult worm or the ova and the institution of specific treatment will deinfest the intestine and cure the chronic diarrhoea. In the treatment of ankylostomiasis, tetrachlorethylene 4 cc given early in the morning followed by a saline purgative is quite effective though of late bephenium hydroxy-naphthoate (alçopar) given as a single dose of 5 G (2·5 G base) early in the morning is claimed to be better. In the treatment of round worms, piperazine preparations are quite effective and one ounce of the elixir given at bedtime followed by a saline purgative early next morning, is quite adequate. In the treatment of giardiasis, mepacrine 0·1 G thrice daily for 5 days will clear the infestation in most cases. For the treatment of intestinal trichomoniasis, metronidazole (Flagyl) is supposed to have preceded the older methods of treatment using arsenic, and a seven day course is quite effective provided reinfection does not occur. The eradication of threadworms is by treatment with piperazine compounds and simultaneous observance of personal hygiene to prevent autoreinfection and treatment of all members of the household having the infestation.

But of all chronic diarrhoeas, the most notorious to diagnose and perhaps the most difficult to treat is chronic amoebiasis. In most cases there is no history of previous dysentery and even if it was present, it is usually forgotten. But the symptoms in a case of chronic amoebiasis are typical. The patient does not have diarrhoea every day. For many days he is constipated or feels that he has not had a satisfactoy motion. Or his bowel movements may be quite normal for days together. But then he gets frequent loose motions for a day or two with discomfort in the abdomen and he attributes this to some dietary indiscretion and this diarrhoea corrects itself without treatment confirming his theory of dietary indiscretion and this goes on repeating. One thing peculiar about this diarrhoea is that it comes on after taking food and here the history is characteristic. The person has his usual morning motion and then he takes his breakfast and gets dressed to attend to his work. As soon as he starts getting out, he has an urgent call to defaecate. He feels a lot of discomfort in the whole abdomen, but there is no definite pain and this -is aptly described by the patient in Tamil as வயிற்றுச்சங்கடம் with a lot of முணுமுணுப்பு. He has to undress himself and attend to the call of nature. This happens after lunch also, especially when he comes back from office and takes his food at home and has to go back again immediately. Usually the night meal is not followed by any such event. During holidays, he usually never gets such attacks of diarrhoea and besides food, unpleasant situations also produce the same type of diarrhoea. The picture is not unlike that of nervous diarrhoea, but here the aetiology is different. Thus in chronic amoebiasis, the mental element is quite dominant and is responsible for the symptoms and it may not be possible to see the amoebae in repeated examination of the motions during such attacks of diarrhoea as it may be a purely nervous diarrhoea super-imposed on a chronic amoebic infection. Such persons are highly-strung, introspective, self-interrogative and bowel-conscious. Such cases are very difficult to treat, for even though amoebae are found out in the motion after several examinations and the cause of the chronic diarrhoea thus established and a strict regime of antiamoebic treatment is given successfully, their bowel symptoms do not get better because of the nervous element. They spend most of their time in the lavatory or in the laboratory searching for the cyst that eludes the microscope or in the dormitory as a mental patient. It is in the early diagnosis of such cases before the mental symptoms predominate and prevent successful treatment, that one can succeed. So in all cases of chronic diarrhoeas of even short duration or of change of bowel habit, a thorough investigation to rule out the possibility of amoebic infection must be made. The motion must be examined repeatedly and sometimes a saline purge has to be given and the subsequent motions have to be examined. Sigmoidoscopy has to be done in some cases and the scrapings from the ulcers in the rectum examined for amoebae. Once the diagnosis of chronic intestinal amoebiasis has been made by the identification of the vegetative forms or cysts of the amoebae in the motions, the patient must be assured that all his symptoms are due to the amoebiasis and treatment given for the condition. After repeated trials with new amoebicides and antibiotics, it has been found that the value of Emetine Bismuth Iodide is still unsurpassed in the management of chronic amoebiasis. Unfortunately the drug is not freely available nowadays-perhaps it has fallen out of fashion to use old drugs though of established efficacy. Emetine Bismuth Iodide (EB1) given as a powder in capsules 0 2 G(3 gr) daily for 10 days at bed time, preceded, if necessary, by sodium amytal ·2G (3 gr.) if there is nausea will cure the bowel infection in most cases. Diloxanide furoate (Furamide or Entamide) is non-toxic and in a dose of 0·5 G three times daily for 10 days appears to be a satisfactory subsitute for EB1. Following a course of EB1 or diloxanido furoate, the patient should be instructed to report 4 weeks later for tests of cure. These consist of at least 6 consecutive stool examinations and further stool examinations at monthly intervals for 3 to 6 months. These occassions must also be utilised to reassure the patient and prevent him from drifting into a psychoneurotic; because once the psychoneurotic symptoms predominate, it will be very difficult to salvage the patient and prevention is always better than cure in these cases. I am making repeated mention of the psychological aspect of chronic intestinal amoebiasis with emphasis because, if they are not treated sufficiently early, they become mental wrecks and become a burden to themselves, to their family and to society at large. So in the late cases even if you treat the bowel infection radically, your patient's troubles are not over. It is just like your gaining the whole world but losing the soul in the bargain.

The other condition that merits our attention as a common cause of chronic diarrhoea in our country is tuberculous entero-colitis. If the possibility is always borne in mind, few cases will be missed. Here the patient passes profuse bulky stools and repeated examination of the motion is negative for any other organism responsible for diarrhoea. Usually the patient is emaciated and complains of anorexia. The evening temperature is raised and if there is pulmonary tuberculosis also, there are cough and chest signs. A thorough investigation of these cases including a skiagram of the chest, E. S. R. estimations, etc. will confirm the diagnosis. The institution of anti-tuberculous treatment with one of the approved regimen with the three powerful chemotherapeutic drugs — sterptomycin, P. A. S. and isoniazid will usually cure the condition. To stop the diarrhoea which is troublesome, a chalk mixture with or without opium for a few days will be enough.

SLEEP THERAPY

P. BUL, Candidate of Medical Sciences

It was a light, spacious hospital room. Three o'clock in the afternoon. That was an unusual time for these six patients to be spleeping so soundly. Their sleep was being "controlled" by a young doctor, A. N. Petrove. It took but one movement of her hand, which switched in the elctric sleep apparatus, and in 5–7 minutes the patients fell sleep. This "eletric sleep" apparatus is a Soviet invention. English and French newspapers wrote of it as a "new Russian marvel," and the United States of America bought a license for its production. The designers of this remarkable apparatus, Soviet scientists N. M. Livetsov, Z. A. Kirilov, and Y. E. Segal, conducted the first therapeutic seances of electric sleep under the guidance of V. A. Gilyarvsky.

We were looking at the case history of patient V., who was suffering from hypertension. The patient suffered from headaches and continual insomnia. Although medicinal therapy brought some relief, the arterial pressure remained dangerously high. When Professor N. K. Bultatov made his rounds, he recommended the use of electric sleep. Ten seances of electric sleep cured the patient and he was able to return to normal work.

Why does sleep have such beneficial effect upon the organism of men ? What is its essence ? Why can one even cure a person by means of sleep ? Man spends almost a third of his life in sleep. Though a person can get along without food for more than 30 days, neither man nor animal can live for more than 10–12 days without sleep. Why do we sleep ? The oldest theory of sleep is the chemical one. According to this theory, sleep comes as a result of an accumulation in the spinal fluid of special "sleep poisons," hypnotoxins from the blood. These chemical substances are a specific sort of "slag" that accumalates when one is awake. The hypnotoxins, when moving together with the blood through the organism, reach the brain and seem to narcotise the nerve cells, excluding them from work.

Here are some experiments that confirm this. For 4 or 5 days a test dog was not permitted to sleep. Then some spinal fluid, which contained hypnotoxins, was taken from the animal who was fatigued by lack of sleep, and intoduced into a control dog. What happened ? The dog fell sound asleep.

But this theory cannot explain a number of phenomena. For instance, why does a person sometimes fall sound asleep in the morning, after he has awakened ?

Today the theory of sleep propounded by the great Russian physiologist, I. P. Pavlov dominates in the Soviet Union and in many other countries. Pavlov and his colleagues succeeded in revealing the mechanism and essence of sleep and in creating a materialistic theory of sleep. Rhythmic nerve impulses from various sense organs pass via the nerve conductors to the cortex and have a two-fold effect upon the nerve cells located there. In some cases these impulses arouse the nerve cells to activity, and in other cases they have the contrary effect, that of inhibiting them. Excitation and inhibition are the chief nerve processes that take place in the cortex. They continually replace one another. Thanks to the countless number of stimuli that go to the cortex, the nerve centres are alternately stimulated and inhibited.

Thus the stimuli of our environment, which are perceived by our sense organs, keep our brain awake. If we ceased to perceive the stimuli of our environment and stopped transmitting these signals of the life around us to the cortex, we would continually be in a sleepy state. The following case was observed in the clinic. A patient had lost his skin sensitivity, he was blind in both eyes and deaf on one ear. If this car was closed with a cotton wad, he immediately fell sound asleep. And, on the contrary, if this "window into the outer world" was opened, that is, if the cotton wad was removed from his ear, the patient awoke.

On the other hand, continual irritation with some monotonous, even if weak irritant, of one and the same areas of the brain results in the exhaustion, in the fatiguing of the nerve cells of the brain, which inevitably leads to their inhibition. Once the process of inhibition has appeared, it begins to spread in the cortex, covering ever new areas. This leads to the complete, rapid inhibition of the nerve cells, that is, to sleep.

According to Pavlov, sleep is inhibition which embraces most of the cells of the cortex sometimes even affecting the lowlying regions of the brain (subcortical nerve formations). According to Pavlov's physiological theory, sleep is a protective state that guards the nerve cells against fatigue and death. When the nerve cell works uninterruptedly for a long time, it uses up its "irritable substance" and accumulates harmful chemical products in its body, which, were it not for salutory sleep, would in the end "poison" the nerve cell and lead to its destruction. In order to prevent this from happening, salutory (protective) inhibition sets in, which "shuts out" the nervous system. In contrast to the assortions of the advocates of the chemical theory, we sleep not because we are poisoned with hypnotoxins, but in order not to be poisoned.

It has been proved that many organs and tissues of the body rest during sleep. Sleep is of especially great significance for the nerve cells. During sleep the nerve cell sort of works for itself, accumulating the necessary nourishing substances, assimilating them better, and collecing the "irritable substance" and energy, Indeed the entire organism uses the night's sleep and rest for "prophylactic repairs".

In the beginning, medicinal therapy used sleep which was brought about by soporific substances, to treat people suffering from ulcers of the stomach, hypertension, nervous diseases and other disorders. But it was discovered that in spite of the good effect of medicinal sleep on the morbid processes, a number of complications arose, which were undesirable for the organism. These considerations compelled the doctors to stop using medicinal sleep, or at any rate, to greatly reduce the use of the dose of the soporific substances.

Hypnotic sleep, which is the brother of natural sleep and which, according to the theory of I. P. Pavlov, V. M. Bekhterev and K. I. Platonov, is qualitatively not to be distinguished from normal sleep, is coming into ever greater use.

How is hypnosis induced? By the irritation of some perceiving apparatus, the organ of sight, hearing, or of the skin. In this way protective inhibition, or sleep, sets in.

The hypnotic method of treatment is becoming ever more popular. Sometimes it produces quick results. However, it would be a mistake to think that electric sleep or hypnotic sleep is a panacea for all diseases. Both of these methods of treatment have their strict indications and counter-indications, which only the doctor can determine. That is why one should direct a person for treatment only in accordance with the instructions of doctors who are able to analyse each individual case and decide which method should be used.

LETTER TO THE EDITOR:

INTEGRATION OF PUBLIC HEALTH AND MEDICAL DEPARTMENTS

It is unfortunate that the President of the State Branch of the Indian Medical Association, in his presidential address at the 17th Madras State Conference, held at Annamalainagar opposed the scheme of integration, of the public health and medical departments, and said that the integration, if given effect to, would be a retrograde step. A resolution opposing the merger of the two departments was also adopted at the conference.

May I point out that by opposing the merger of the two departments, it would be reversing the gear and making a retreat from the ultimate objective of offering comprehensive care of health supervision and prevention as well as curative treatment. It is gratifying that the highpower committee appointed by the Government to go into this question, has unanimously recommended the merger of the two departments which awaits consideration by the cabinet. It is hoped that the cabinet will approve the suggestion of the committee as it is only by integration of the two departments, the basic problem of medical care, viz., the prevention and retardation of illness could be solved by making more doctors available to more patients. This reorientation is essential if attempts to improve medical care are to reach below the surface of the needs of the people. These needs are not merely cures in certain cases or palliation in all; they include also the systematic prevention or control of illness and the raising of the positive health level of people. The medical service will be fully effective only when the integration of the medical and public health departments is realised. As the physician should play the role of a health adviser, preventive medicine cannot be a separate service. It is necessary that preventive medicine should be closely integrated to carry out the balanced programme with due regard to the overall objective of preserving and promoting the health of the people, while providing relief to the sick. The concerted opinion of experts in most of the countries is that the unitary system of health services is desirable. The integration of the two departments is, therefore, a step in the right direction and future progress lies only in this direction.

32, Thennamaram Street,
Vellore, 6th May 1963.

Yours faithfully,
(Sd.) T. M. KUMARASWAMI.

ABSTRACTS AND EXCERPTS

POLIOMYELITIS - THE FUTURE - PREVENTION AND CONTROL THE VACCINES IN ACTION:

The merits and uses of the poliomyelitis vaccines are discussed. The Salk killed virus vaccine is effective, producing as much as 84% reduction in incidence of poliomyelitis when only 2 doses are given. A 3rd dose 18 months later, and a 4th dose increase the protection but never prevent all cases. The duration of immunity is known and may be influenced by asymptomatic infections serving as boosters. Disadvantages include administration by needle, the need for at least 3 doses, lack of potency of some vaccines, and the difficulty of inoculating enough of a population to produce 'herd immunity'. Advantages include the opportunity to combine the vaccine with other antigens and that the vaccine consistently reaches tissue where it can produce immunity. The Sabin live vaccine (and probably the other live vaccines which have not been studied as much) has advantages. In some studies it protected 100% of subjects against demonstrable poliomyelitis. No needles are needed. A large percentage of the population can be inoculated, giving herd-immunity. Although usually 3 doses of trivalent vaccine are given 4 weeks apart, a single dose of univalent vaccine seems to stop an epidemic, even when type 2 vaccine is given in a type I epidemic. Disadvantages include the unlikely possibility thaat live virus vaccine might cause paralysis, and the ineffectiveness of the vaccines in the presence of infection with enteroviruses.

— *Wilson G. S. Pub. Health (Lond). 1962, 76 (229–234).*

* * * *

BLOOD TRANSFUSION, A TWO-EDGED SWORD:

More than 3,500,000 blood transfusions are given annually in the United States. As a result, many lives are spared and convalescence is assured and hastened. But, in the midst of this stirring accomplishment the virtues are being questioned in the Halls of Justice. Two aspects are at play: the false assumption that modern laboratory methods are completely effective, and the popular belief that blood transfusions are a "tonic" with capabilities of preventing or correcting mild as well as serious disturbance in surgical and in certain medical conditions.

Care, dedication, and basic training are intimately involved in the practice of blood transfusion, beginning with selection of donors, the methods used for collecting blood, typing, storing, labelling, record keeping, ordering the blood from the hospital floor, withdrawing the blood from the blood bank, cross-matching, delivery, and finally identification at the patient's bedside. This chain of command must function perfectly at every link; otherwise a catastrophe can be expected. Questions that strike at the very heart of hospital administration concern the skill and responsibility of the technician. Is she dependable? Is the substitute technician on call qualified and equally dependable? Is she or he familiar with the location of supplies and the methods used in the daytime? Are the reports given in a clear, legible manner? Are there safeguards built into the "system" to insure against mistakes by the human equation?

— *JAMA Feb. 2, 1963, 366 & 367 Editorial.*

GONORRHOEA :

At its recent meeting in Geneva, the WHO Expert Committee on Gonococcal Infections had to admit that there was complete failure to control gonorrhoea throughout the world, despite the widespread use of penicillin and other powerful antibiotics. For several years the number of cases, especially among teenagers, has been increasing, and it is now estimated that at least 60 million cases occur every year throughout the world. The causative organism Neisseria gonorrhœa, is developing resistance to antibiotics, and there are more treatment failures, even with dosages four or five times as large as those used 10 years ago.

Unlike syphilis, in which there is a fifty-fifty chance of escaping infection on sexual contact with an infected person, new infections almost always result from sexual contact with persons infected with gonorrhœa, and no method has yet been found of eliminating the disease from the community. Education and intensive case-finding methods have been tried but have never succeeded in getting the necessary complete cooperation from the public. Legislation may help, such as that in force in the U. S. S. R. where sentences of up to three years imprisonment can be passed on infected persons who do not co-operate with the health authorities. To add to the problem, there is the difficulty of accurately diagnosing gonorrhœa-even the best laboratory examinations may miss about 10% of female infections, and although male patients outnumber female patients by about four to one, in a recent survey in the U. S. S. R., 90% of the women found to have chronic gonorrhœa were symptomless.

Although it is true that the classical picture of gonorrhœa as a blinding, crippling and occasionally mortal disease is no longer typical, complications still occur, especially in women because in them the disease is so often undiagnosed until the later stages. These complications lead to sterility in 2%-3% of cases and still cause blindness in babies if they are not properly treated at birth. .One of the most serious problems, however, is the increased incidence among teenagers : in Mexico 55% of gonorrhœa occurs in those aged 15 to 24 years in Sweden the highest figures are in 15 to 19 age-group, and the situation is much the same everywhere.

The committee felt that the only hope for the future lies in the discovery of some agent or vaccine to immunize people against gonorrhœa, and recommended that research in this field should be pursued with all possible vigour. In the meantime it was agreed that none of the traditional ways of protecting the public should be overlooked. The attention of health administrations, doctors and the public should be drawn to the increasing gonorrhœa hazard, especially for women.

— *' The Practitioner : Vol. 190, World Health News page A20 A22.*

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AN EPIDEMIC OF KWASHIORKOR IN THE SOUTH KASAI, CONGO :

Grouping of Kwashiorkor According to Severity.

Sign	Group 1	Group 2	Group 3	Group 4
Changes of hair colour and shape	±	±	±	±
Oedema of feet and tibiae	+	++	++	+
Odema of face and eyelids	—	+	+	∣
Ascites	—	±	+	±

Grouping of Kwashiorkor According to Severity. (Contd.)

Sign	Group 1	Group 2	Group 3	Group 4
Skin changes:				
Depigmentation	—	—	+	+
Excoriations	—	—	+	+
Lack of subcutaneous fat	—	—	±	++
Atrophy of muscles:				
Shoulders and arms	—	—	±	++
Generalized	—	—	—	+

+ = Present. ++ = Marked. — = Absent. ± = Doubtful.

Division of the kwashiorkor patients into four groups according to severity was done mainly to give the Congolese medical assistants, nurses and auxiliaries a guide for applying the dietary and other therapeutic measures as outlined above. It has proved its value in the circumstances found in the South Kasai in December 1960. In different circumstances modifications would be necessary. Dean (1960) differentiates only three groups: his "slight" group corresponds in most features to the author's group I, his "moderate" group to the author's group 3 and his "severe" group to the authors' group 4, except for the one big difference that in the South Kasai children, the subcutaneous fat was not usually well retained.

The therapeutic diet used was composed of the foods available in hospitals and dispensaries and supplied through the United Nations relief action. It was not a good diet as a cure for kwashiorkor, but it was the best diet possible under the circumstances. It supplied an average of 2—3 g of protein per kg of body-weight, and this was apparently enough to replenish depleted protein stores in most cases, as witnessed by the loss of oedema usually within two weeks and gain in weight and strength thereafter. Whenever children were found with persistent oedema beyond two weeks and with a stationary weight after the oedema had disappeared, their condition was more often than not traced to inadequate feeding. This was due either to lack of adequate supplies or to ignorance (and sometimes indifference), or to both.

The finding that the clinical picture was often more severe in the older children is perhaps unexpected, since the younger child, with relatively higher protein requirements, is usually considered more vulnerable.

Mortality figures roported from the two hospitals mentioned must be considered rather low, considering that in at least one centre, Disele, usually only children in group 3 and 4 were hospitalized. Comparative figures known to the author from West Africa show a mortality as high as 40% for one large hospital.

Although the comparison between the mean weights of acutely ill children in four age-groups in Tchibata and of healthy North American children of similar age cannot be considered valid, the fact that the older children showed a larger weight deficit may again be a reflection of the greater severity of the mal-nutrition in the older children.

The fact that anaemia is frequently associated with kwashiorkor has been reported by various authors (Cravioto *et al.*, 1953; Adams, 1954; Trowell *et al.*, 1954). It is usually of the microcytic, hypochromic type and often responds to a good diet alone. Unfortunately, it was not possible to do any investigations in order to define either the anaemia present in over 50% of the cases, or to follow its course. In the consideration of etiological factors, however, the presence of such infections as malaria must be taken into account.

It was gratifying to see the great majority of the mild to moderate diarrhoeas present at the beginning disappear within a few days of dietary treatment. This suggests that most of these diarrhoeas were of nutritional origin due to lack of enzyme production in the intestinal tract.

The observation that smallpox—a virus disease - and kwashiorkor appear to be almost mutually exclusive deserves further investigation. It is entirely in line with observations reported during epidemics of poliomyelitis—another virus disease—where the well-nourished child is also usually stricken. Scrimshaw *et al.* (1959), in their review of the literature on nutrition and infection, suggest that virus infections may behave differently from most other infections in relation to the nutritional status of the host. Whereas bacterial and parasitic infections are usually synergistic with malnutrition, virus diseases seem to be antagonistic, i. e., they attack the well-nourished rather than the malnourished.

That kwashiorkor occurs in the adult also shows that it is not necessarily a disease of the growing child, although the latter is certainly much more susceptible owing to his relatively greater requirements for protein of high biological value. It is understandable that women of child-bearing age are more frequently affected than men of any age, because of the former's greater requirements during pregnancy and lactation. In addition, it should not be forgotten that in the Central African cultures it is usually the woman who does the heavy work, such as planting and harvesting, besides her domestic duties.

TREATMENT:

The basic therapeutic diet used consisted of skim milk powder (minimum of 60 g. per day) most of which was reconstituted with boiled water, usually with sugar added (5%), at the ratio of 1 tablespoon of milkpowder to 125 ml of water (13%). A child in group 1 would receive four cups of reconstituted milk during 24 hours, usually either with the meal or between meals; if given between meals, the milk was accompanied by some starchy food (e. g , a gruel made from maize and cassava, which is the local staple, called chima) in order to avoid the use of the milk protein for energy. The two or three meals consisted of a starchy food (rice, chima) with a protein food (usually fish, either canned or dried and salted), and some palm oil; and they provided an average of between 1700 and 2600 calories a day per child. A child in group 2 received more milk (6 cups) and a child in group 3 still more (8 cups). Some of this milk powder was not reconstituted, but used dry, usually mixed with banana, if available, or added to rice at the table. Since palm oil was plentiful, we experimented by mixing the dry skim milk powder with palm oil at 15% and adding this enriched milk powder to rice at the table. This was well accepted and provided valuable provitamin A and calories. However, it proved impossible to add the palm oil to reconstituted skim milk as it separated shortly after it had been emulsified in a Waring blender.

The treatment of the children in the first three groups was essentially dietary. Children in group 4, however, were usually in such a critical condition owing either to dehydration as a consequence of severe diarrhoea or to the extreme weakness of marasmus, that they needed special treatment (i. e., fluids and antibiotics) until they were able to take full nourishment by mouth. Many times they had to be tube-fed until the anorexia usually present had subsided. As one would expect, mortality was highest in this group.

—"*Bull. of W. H. O. Vol. 27, No. 6 (1962) pp. 752, 757*".

NEWS AND NOTES

A NEW MERGER OF INTERESTS IN THE PHARMACEUTICAL INDUSTRY

When imports of ready made pharmaceuticals were drastically curtailed some seven years ago, the major Indian pharmaceutical companies developed their organisations rapidly by locally producing medicines previously imported from abroad. One such local manufacturer was International Franchises Private Ltd., who, in a relatively short period, expanded its manufacturing activities considerably by offering a complete production service to a large number of pharmaceutical companies, both local and foreign. For this the company constructed laboratories with modern amenities and factory premises in the industrial area of Thana.

In order to widen its commercial activities and manufacturing scope, and to stimulate the scientific development of new drugs and medicines, International Franchises Limited has entered into agreements with two well-known foreign pharmaceutical companies — N. V. Philips-Duphar, Amsterdam and the Crookes Laboratories Limited, London. In collaboration with these two companies, International Franchises is about to embark on a joint activity under the name of CROOKES INTERFRAN LIMITED for the development, manufacture and marketing of pharmaceutical products.

Messrs. N. V. Philips-Duphar, Amsterdam, a subsidiary of the international electrical concern of Philips, Holland started its pharmaceutical activities in 1928 when Philips' scientists developed a method of synthesising vitamin D (the anti-rickets vitamin) by irradiating a chemical compound with ultra-violet rays of a specific wave length.

Extensive research in this direction induced Philips to establish a separate organisation named Philips-Duphar, for research in the broadest sense, in the field of human, animal and plant medicine. Philips-Duphar has widely developed research and manufacturing facilities for pharmaceuticals, veterinary medicines and agricultural chemicals in Holland and many other countries.

N. F. Philips-Duphar are manufacturers of a wide range of pharmaceuticals and are particularly well-known for their vitamin products. They are,, in fact, the largest producers of Vitamin D in the world. The Government of India has approved a collaboration scheme between Philips-Duphar and Crookes Interfran Limited, whereby Duphar will render all technical services required by the Indian company for starting the local basic manufacturing of Vitamin D. India will thus be one of the very few countries in the world where this essential vitamin will be manufactured.

Vitamin D is not only of great importance in the medical field but is also very useful in the nutrition for cattle and poultry, resulting in good and increased milk, egg and meat production.

Fifty years ago, Sir William Crookes was being acclaimed as a prominent scientist of Britain. As a result of an accident which occurred regularly in his laboratory, the Crookes Laboratories Limited was born. Glass dishes were too fragile and cracked in the process of cooling bacteriological cultures in liquid air and so Henry Crookes, son of Sir William, tried using silver dishes. He was not successful with the silver dishes as the cultures refused to grow in these. This led to the discovery of the anti-bacterial action of silver and later on, of many other elements. When further development work showed that the maximum therapeutic action was gained when these materials were presented in the form of colloidal solutions, a company was formed in 1911 to develop products for use in medicine.

Although much spectacular progress has been made in medicine since then, the industry still finds use for many of Crookes colloidal solutions, or Collosols as they are, perhaps, better known. From among the many other noteworthy products developed in its early stages by the Crookes Laboratories Limited, transfusion solutions are still marketed by the company.

Crookes research into nutritional problems and its contribution in the discovery of some vitamins, played an important part in the reduction of vitamin deficiency diseases recorded in the last twenty-five years. For example, it is no exaggeration to say that Crookes' research and production of natural vitamins A and D contributed a great deal to the eradication of rickets in Britain.

Other well-known discoveries for which the Crookes Laboratories was responsible are sulphanilamide, stilboestrol, injectible iron, corticotrophin and anithæmophilic globulin which is a life-saver for the unfortunate group of people generally called bleeders.

Crookes' products have been available in India ever since they were marketed in the early days of the company. A branch was established in Bombay in 1929 and local manufacturing was started ten years ago. Today, many Crookes' items are produced locally and it is expected that the range will be extended by Crookes Interfran Limited.

The new combine CROOKES INTERFRAN LIMITED already possesses highly developed manufacturing facilities and now, through its association with N. V. Philips-Duphar and The Crookes Laboratories Limited it will have access to extensive research and development resources and will thus be able to contribute to the specific needs of medicine in our country. It will provide India with another major corner stone in the process of building an indigenous pharmaceutical industry worthy of international acclaim.

— *Contributed.*

ASSOCIATION NOTES

BRANCH NOTES

Erode Branch:

Dr. M. N. Shenoy presiding, a meeting of the Erode Medical Association was held on 4—2—1963. Dr. L. K. Muthuswamy spoke on 'Electro Cardiograms in Myocardial Lesions'. There was a film show by the kind courtesy of M/s Squibb. Films on Cancer, Treatment of Non-syphilitic Venereal Diseases and Siquil in Surgery were shown.

Madras State Branch:

At the annual meeting of the State Council of the Madras State Branch of I. M. A. held on 27—4—1963 at the Annamalainagar, the following office-bearers for the Madras State Branch of I. M. A. were elected for the year 1962—'63:

Hony. State Secretary : Dr. A. Pattabi, D. M. & S.,
63, Swami Naicken Street,
Chintadripet, Madras - 2.

Hony. Joint Secretary : Dr. S. Venkatesan, L. M. P.,
7, Tawkers Lane,
West Bouleward Road, Trichy - 2.

Hony. Treasurer : Dr. B. Rama Rau, B. SC., M. B., B. S.,
453, Poonamallee High Road,
Kilpauk, Madras - 10.

Representatives to the Working Committee:

1. Dr. C. Nathamuni Naidu, L. M. (Dub.) Z. T. D. (Vienna.),
The Poly Clinic, Ambur, N. Arcot District.
2. Dr. T. V. Sivanandam, M. B., B. S., M. L. C.,
Hony. Surgeon, Sambanda Mudaliar Road, (West)
R. S. Puram, Coimbatore - 2.

Alternate Representatives for the Working Committee:

1. Dr. T. V. Srinivasan, M. B., B. S.,
3, Pugalia Pillai Street, Tiruchirapalli - 2.
2. Dr. K. V. Swamy, M. B., B. S.,
19, Audiappa Naicken Street, Madras - 1.

The office of the Madras State Branch of I. M. A. continues to function at Madras at No. 63, Swami Naicken Street, Chintadripet, Madras - 2.

Madurai Branch:

The general body and monthly meeting of the Madurai Medical Association was held on Saturday, the 16th March 1963 under presidentship of Dr. N. Suryanarayanan, L. M. P., Madurai. The following resolutions were passed unanimously:

1. A condolence resolution on the demise of Dr. Rajendra Prasad, ex-President of India.
2. Madurai Medical Association shall hence forth be known as the Indian Medical Association, Madurai Branch.
3. Dr. K. A. Ramalingam, M. B., B. S., F. R. C. S. (E.) unanimously elected as state council member for the year.

Dr. P. Krishna Menon, M. B., B. S., F. R. C. S. (Edin.), Honorary Orthopædic Surgeon, Erskine Hospital and Honorary Lecturer in Orthopædics, Madurai Medical College, Madurai gave an interesting lecture on 'Trends in Fracture Treatment.'

Pudukottai Branch:

The monthly meeting of the above association was held on 10th February 1963 at the Town General Hospital, Pudukottai Dr. C. R. Thiruvengadam, M. B., B. S., presiding.

Dr. V. Sankaran, M. S., Professor of Surgery and Superintendent, R. M. Hospital, Tanjore addressed the gathering on 'Intestinal Obstruction'. The lecturer gave an exhaustive review of the cases of intestinal obstruction in the different aspects of life and dealt with the treatment.

Ramanathapuram:

An ordinary meeting of the Ramnad district branch of I. M. A. was held on Sunday the 24th March 1963 at 4 P. M. at the Childrens' Rest House, Vaigai. Dr. S. Raju Ayyar presided over the function. In addition to the Ramnad members, a few members from Usilampatty, Theni, Periakulam and Chinnamannur of Madurai district were also present. Dr. A. A. Asirvatham, M. S., F. R. C. S., Professor of Surgery, Madurai Medical College gave a very good lecture on "The Management of Various Types of Herniæ". He also answered a few questions put by the members. Then all the members spent about 2 hours in sight seeing. The meeting came to an end with a grand dinner and vote of thanks by the secretary.

Salem Branch:

An ordinary meeting of the I. M. A., Salem Branch was held on Saturday the 30th March 1963 at 6 P. M. at 'Hotel Dwaraka', Salem. Dr. K. Jayaramachandran presided. A condolence resolution was passed on the death Dr. P. S. Ramaswamy, a past president and an active member of the association. Dr. K. C. Nambiar, F. R. C. S., (Eng.), F. R. C. S. (Edin.), Consulting Surgeon, Stanely Hospital, Madras addressed the members on 'When to Consult a Surgeon'. The lecture was instructive and interesting. There was a lively discussion after the speech.

Tiruchy Branch:

The 34th inaugural meeting of the association was held on Saturday, the 23rd February 1963 at the Trichy Medical Association premises, Tiruchy. Dr. C. R. Chary, the president was in the chair. The secretary read an announcement regarding the ensuing All India Medical Conference to be held at Madras during December 1963 and solicited the co-operation of every member of this association to make the conference a success. Dr. T. V. Srinivasan, the central council representative of this branch gave a short report about the All India Medical Conference held at Poona in December 1962. The president requested the members to contribute their second quota for the Defence Fund and then introduced the speaker of the day Dr. M. S. Prakas, M. S., Reader in Surgery, Thanjavur Medical College and Civil Surgeon, R. M. Hospital, Thanjavur to the members and requested him to give his talk on 'Surgical Emergencies'. The lecturer gave an interesting talk on the subject and showed a number of skiagrams on the same.

INDIAN MEDICAL COUNCIL — SILVER JUBILEE RESEARCH AWARD - 1964.

To commemorate its Silver Jubilee, the Medical Council of India has created a Silver Jubilee Research Award Fund. The first award will be made in November/December 1964. This award would be open to all citizens of India and foreign nationals who have spent considerable time for research in India, male or female, and who have distinguished themselves by outstanding original research in the field of medical and allied sciences. The value of the award would be Rs. 15,000/- and a gold medal which may be of the value of upto Rs. 1,000/- These awards, for the present, will be presented once in two years at a ceremonial function at which the successful candidates would be required to make an oration.

The award will be made on the basis of nominations of candidates to be submitted along with copies of monographs or reprints of nominees' special study and research. These would be scrutinized by an Expert Committee which will be constituted by the Committee of Management as and when necessary and then it would make recommendations in due course. The decision of the Committee of Management of the Silver Jubilee Research Award Fund of the Council shall be final.

In the case of a joint research work, the award shall be divided between the workers in such proportion as may be decided. The role of the person nominated for the award should be clearly indicated so as to make it easy to determine whether the major part of the work has been done by that person.

Nominators are requested to forward nomination forms complete in all respects as indicated in the instructions.

Blank nomination forms can be had from the Secretary, Medical Council of India, Kotla Road, New Delhi and completed nomination forms should reach him not later than 1st May 1964 through registered post A. D.

V. V. PURI,
Secretary, Medical Council of India.

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REQUIREMENTS FOR THE MEDICAL COUNCIL OF INDIA — SILVER JUBILEE RESEARCH AWARD FUND

Required papers to be included in a complete nomination of a candidate.

1. Nomination forms completely filled out.
2. Photograph of nominee, preferably front view, in a glossy print.
3. All supporting papers asked for, marks sheets, transcripts, etc.
4. Ten copies of the monograph or reprint of nominee's special study which is submitted for judges' consideration. *(Very important).*
5. Complete list of nominee's publications, if any.

6. Nominator's sheet completely filled out; must include his statement for nominating candidate.
7. Seconder's sheet completely filled out; must include his statement for nominating candidate.
8. Omission of any required item disqualifies the nominee.

All papers must be included with the nomination forms and must be sent at the same time. Only a complete nomination will be acceptable. Papers may not be sent at separate times. If they are, they will neither be included nor returned. Do not include testimonial letters.

Nominations for the Silver Jubilee Research Award Fund for the year *1964* are now open. Citizens of India, and others who have spent considerable time in India, male or female, who shall have distinguished themselves by outstanding original research or contributed to the progress and betterment of the country in any of the fields of medical and allied sciences which came to a successful conclusion in the two years prior to the nomination, are eligible. Two or more candidates who have cooperated jointly on any project may be nominated as a team. No one may apply on his own behalf. Candidates must be of good character, with intellectual, moral and spiritual integrity.

Award: Cash prize of Rs. 15,000/- plus gold medal upto the value of Rs. 1,000/- may be presented once in two years to one whose work in India is adjudged to be the best and original in the field of medical research and allied sciences which would be beneficial for the greater good of humanity at large.

Eligibility to Nominate: Colleagues and Professors of candidates, civic leaders, professional societies, and/or established experts in various categories and industries may nominate a candidate who must not be related either by blood, marriage or adoption to the nominator or seconder. They may not have played any direct part in the nominee's work.

Nomination Blanks: May be obtained by writing to tne Secretary, Medical Council of India, Temple Lane, Kotla Road, New Delhi-1. Nomination must reach him by *1st May 1964*.

All decisions taken by the Committee of Management, Silver Jubilee Research Award Fund of the Council are final, and all papers, photographs, books, monographs, etc., submitted will become the property of the Medical Council of India and be kept in their files. If the Medical Council of India should quote from, or reprint any of the papers, full credit will be given to the authors.

The Medical Council of India reserves the right not to make any award if there is no suitable meritorious work done by any candidate.

Awards will be given once in two years to celebrate the Silver Jubilee of the Medical Council of India–1959.